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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/696,772	10/29/2003	Patrick L. Chapman	1201.68289	7885

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EXAMINER

DEBERADINIS, ROBERT L

ART UNIT PAPER NUMBER

2836

DATE MAILED: 08/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/696,772

Applicant(s)

CHAPMAN ET AL.

Examiner

Robert DeBeradinis

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 November 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 8-36 is/are rejected.
- 7) ☒ Claim(s) 5-7 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>4/2/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 3, 8, 12-16, 26-36 are rejected under 35 U.S.C. 102(b) as being anticipated by KING et al. 5,710,699.

Regarding claims 1, 2, 3, 8, 26-28.

KING discloses an apparatus for converting a plurality of dc input voltages from a plurality of voltage sources to at least one dc voltage, the apparatus comprising: a plurality of voltage inputs (outputs of converter 14, 24); a respective current conducting bidirectional voltage blocking switch (TB1, TB2) in an electrical path from each of said voltage inputs; a magnetically inductive device (Lf) in an electrical path from each of said current conducting bidirectional voltage blocking switches; and a voltage output (see figure 1) in an electrical path from said magnetically inductive device.

Regarding claim 8.

KING discloses the apparatus recited in claim 1 in an electrical path with a secondary converter, the apparatus having said voltage output fed back to one of said plurality of said voltage inputs through said secondary converter (figure 2, path through 42).

Regarding claims 12, 13, 14.

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KING discloses the apparatus in claim 11, further comprising: input circuitry in an electrical path to each of said respective current conducting bidirectional voltage blocking switches for controlling switches of said current conducting bidirectional blocking switches (38, 40).

Regarding claims 15, 16.

KING teaches an apparatus for providing dc from more than one source to at least one load, the apparatus comprising: a magnetically inductive device (L_f); a plurality of inputs for respective sources in parallel through respective current conducting bidirectional voltage blocking switches to said magnetically inductive device; and at least one output for at least one load in parallel with a capacitor in series with a diode to said magnetically inductive device (figure 7).

Regarding claim 29.

KING discloses a system for substantially equalizing the charges of a plurality of rechargeable voltage sources wherein said current output is feedback to a rechargeable voltage source that is not comprised in said all excepting at least one of said rechargeable voltage sources (path through 42 to 22).

Regarding claims 30-36.

See KING figure 1.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4, 19-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over KING 5,710,699 in view of BARTHOLD 5,436,818.

Regarding claims 4, 19, 20-25.

KING discloses the apparatus of claim 1.

KING does not disclose wherein said magnetic inductive device comprises a transformer.

BARTHOLD discloses wherein the inductive device comprises a transformer (COL.2, LINES 32-36).

It would have been obvious to one having ordinary skill in the art at the time of this invention to modify one of the inductive devices to include a transformer. The motivation would be to take advantage of the isolation characteristics of the transformer.

Claims 9, 10, 11, 17, 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over KING 5,710,699

Regarding claims 9, 10.

KING discloses the apparatus recited in claim 1 wherein each of said current conducting bidirectional voltage blocking switches is switched on substantially

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simultaneously with a switch signal; each of said current conducting bidirectional voltage blocking switches has a duty cycle dependent on source voltage and the output voltage; each of said current conducting bidirectional voltage blocking switches has an effective duty cycle which can be expressed by the formulas which are well known to one in the art.

Regarding claim 10.

KING discloses the apparatus of claim 9, further comprising: an input control circuitry in an electrical path of said respective current conducting bidirectional voltage blocking switches for controlling switching of said current conducting bidirectional voltage blocking switches (38, 40).

Regarding claim 11.

KING discloses the apparatus of claim 1 wherein a current through said magnetically inductive device, said magnetically inductive device having an inductance L , greater than zero in steady state operation. It is obvious that as long as the current through the device is changing (being switch) the inductance of the inductive device is not zero. The given formulas express the output voltage in its effective or obvious RMS value.

Regarding claims 17, 18.

KING discloses the apparatus recited in claim 16 wherein said input control circuitry closes at most only one or all of said respective current conducting bidirectional voltage blocking switches at a given time (column 4, lines 49-60).

Allowable Subject Matter

Claims 5, 6, 7 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

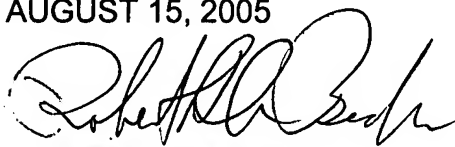
The following is a statement of reasons for the indication of allowable subject matter: the prior art does not disclose or suggest an apparatus converting plurality of voltage sources to at least one dc output voltage wherein said voltage output is reversed in polarity relative to one of said voltage inputs.

Any inquiry concerning this communication should be directed to Robert L. DeBeradinis whose number is (571) 272-2049. The Examiner can normally be reached Monday-Friday from 8:30 am to 5:00 pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Brian Sircus, can be reached on (571) 272-2058. The Fax phone number for this Group is (703) 872-9306.

RLD

AUGUST 15, 2005



ROBERT L. DEBERADINIS
PRIMARY EXAMINER